

yyyZZZZ_threshold_utm.gdb README

The debris flow estimates geodatabase for fire yyy, during fire year ZZZZ, contains several feature classes:

All datasets are in UTM coordinates, Distance Unit = Meter, Angular Unit = Decimal Degree.

DISCLAIMER: The data included in this geodatabase may be preliminary in nature and have not received Director's approval. As such, these data are provisional and subject to revision. This information is provided with the understanding that revisions may be made, and conclusions drawn from such information are the sole responsibility of the user. Please see contact information below if you require additional information.

Feature Datasets

Relevant Feature Data:

yyyZZZZ_basinpt_feat: point feature class representing the basin outlets (pour points) used for calculating the basin-scale predictions.

yyyZZZZ_centroid: point feature class representing the geographic center of the fire perimeter.

yyyZZZZ_analysis_extent_feat: polygon feature class representing the extent of the geographic area considered during modeling. Watch streams do not extend beyond this analysis extent, but flood hazards may persist downstream.

yyyZZZZ_perim_feat: most recent burn perimeter, obtained from geomac.gov

yyyZZZZ_debrisbasins_feat: sediment retention structures located within or downstream of burn area. These data do not exist for every fire.

yyyZZZZ_dbstreams_feat: stream segments downstream or intersection sediment retention basins. These data do not exist for every fire.

yyyZZZZ_watchstream_feat: Streams that exceed an upslope area of 8 square kilometers and within the analysis extent, yet are still susceptible to flood and possibly debris-flow hazards, are included in the geodatabase as "watch streams."

Basin Scale Predictions:

yyyZZZZ_Basin_RainfallEstimates_DDMin_RainAtP_XX: Basin estimates of rainfall rates (in mm/h) and accumulations (in mm) measured over DD duration (in minutes) that result in a statistical likelihood = XX (x100). For example, the feature class yyyZZZZ_Basin_RainfallEstimates_15Min_RainAtP_50 contains the rainfall accumulation and intensity information that results in a statistical likelihood of $p = 0.5$.

yyyZZZZ_Basin_RainfallEstimates_DDMin_RainAtAllP: Basin estimates of rainfall rates (in mm/h) and accumulations (in mm) measured over DD duration (in minutes) for all analyzed likelihoods (0.1, 0.25, 0.4, 0.5, 0.6, 0.75, and 0.9).

Segment-Scale Predictions:

yyyZZZZ_Segment_RainfallEstimates_DDMin_RainAtP_XX: Segment-scale estimates of rainfall rates (in mm/h) and accumulations (in mm) measured over DD duration (in minutes) that result in a statistical likelihood = XX (x100). For example, the feature class

yyyZZZZ_Basin_RainfallEstimates_15Min_RainAtP_50 contains the rainfall accumulation and intensity information that results in a statistical likelihood of $p = 0.5$.

yyyZZZZ_Segment_RainfallEstimates_DDMin_RainAtAllP: Segment-scale estimates of rainfall rates (in mm/h) and accumulations (in mm) measured over DD duration (in minutes) for all analyzed likelihoods (0.1, 0.25, 0.4, 0.5, 0.6, 0.75, and 0.9).

Tabular Information within Feature Classes

Within the basin and segment prediction feature classes listed above, the tables for each feature class provide the data used to make the calculations, as well as the calculated estimates of probability, volume, and combined hazard. Here is a description of the relevant fields within the table:

Basin_ID: unique basin identifier used in modeling (unique to these data only). Field is included only in the basin features.

Segment_ID: unique stream segment identifier used in modeling (unique to these data only). Field is included only in the segment features.

L_X1: The proportion of upslope area burned at high or moderate severity and with gradients in excess of 23 degrees.

L_X2: The average dNBR of the upslope area, divided by 1000.

L_X3: The average KF-factor of the upslope area.

RainAccAtPXX_mm: the total rainfall accumulation, in mm, over the analyzed duration that results in a $P = XX$.

RainInAtPXX_mmh: the total rainfall intensity, in mm/h, over the analyzed duration that results in a $P = XX$.

RainAccAtPXX_mm_Legend: text legend field used for cartographic display of the total rainfall accumulation, in mm, over the analyzed duration that results in a $P = XX$.

RainInAtPXX_mmh_Legend: text legend field used for cartographic display of the total rainfall accumulation, in mm/h, over the analyzed duration that results in a $P = XX$.

Text files within Zip:

yyyZZZZ_ThresholdGuidance_Basin.txt: Text file representing the median estimated rainfall intensity-duration thresholds for all of the analyzed basins at different likelihood values and durations, in both accumulations (mm and inches) and intensities (mm/h, in/h).

yyyZZZZ_ThresholdGuidance_Segment.txt: Text file representing the median estimated rainfall intensity-duration thresholds for all of the analyzed basins at different likelihood values and durations, in both accumulations (mm and inches) and intensities (mm/h, in/h).

Tabular Information within Threshold Guidance txt files

Fire ID: three character abbreviation of fire and 4 number year.

FireName: name of fire, from Inciweb

FireState: U.S. State containing the fire

Duration: threshold duration, in minutes

Threshold_P: likelihood value used for threshold estimation x 100. For example, the 15-minute rainfall rate that results in a likelihood value of 0.5 would have the following field values: Duration = 15, Threshold_P = 50.

Acc_mm: the total rainfall accumulation, in mm, over the analyzed duration that results in a P = XX. Value represent the median value of all analyzed basins or segments.

Int_mmh-1: the total rainfall intensity, in mm/h, over the analyzed duration that results in a P = XX. Value represent the median value of all analyzed basins or segments.

Acc_in: the total rainfall accumulation, in inches, over the analyzed duration that results in a P = XX. Value represent the median value of all analyzed basins or segments.

Int_inh-1: the total rainfall intensity, in inches/h, over the analyzed duration that results in a P = XX. Value represent the median value of all analyzed basins or segments.